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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,334

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Andrew J. White

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EXAMINER

HOOK, JAMES F

ART UNIT

PAPER NUMBER

3754

MAIL DATE

DELIVERY MODE

06/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/760,334	Applicant(s) WHITE, ANDREW J.	
	Examiner James F. Hook	Art Unit 3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-52 and 54-58 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,15,23,25 and 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,9-14,16-22,24,26,38-52 and 54-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 5-7, 9-14, 16-22, 24, 38-52, and 54-57 rejected under 35

U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 38, as well as the remaining claims based upon their dependency on these claims, recites "the divider mechanism does not enter the first or second balancing chambers" however, the originally filed specification does not disclose this specific limitation and actually teaches against it where as per figure 1 the elected species, chamber 18 is known as the balancing chamber that is responsive to changes in ambient pressure which according to claim 1 is the first balancing chamber and clearly the moveable divider 14 passes through chamber 18. Likewise, in claim 38 first and second balancing chambers are set forth as the equivalent of chambers 18 and 20 of figure 1, and as set forth above, the divider passes through chamber 18, therefore not only is this limitation new matter but such is contrary to what is set forth in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 5-7, 9-14, 16-22, 24, 38-52, and 54-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to claims 1 and 38, as set forth above, the elected figure 1, and the specification clearly set forth that moveable divider 14 passes through chamber 18 which is the balancing chamber referred to as the first chamber in claim 1, and one of the first or second balancing chamber as referred to in claim 38, therefore it is impossible for the moveable divider to not pass through at least one of the first and second balancing chambers which is contrary to figure 1 and the specification, therefore this language is indefinite.

Claim 26 recites the limitation "the first and second balancing chambers " in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With a lack of antecedent basis for these terms, and the lack of any defining structure equivalent to this in the claim, the scope of the claim is not clear with regards to what structure is being set forth by the first and second balancing chambers and therefore renders the claim indefinite, especially when the claims and specification redefine what is meant by first and second balancing chambers.

Due to the fact that the claims are so fatally flawed by the inclusion of language that is not supported by the original specification and is contrary there to, a rejection under Prior Art is difficult to do at this time. However, the examiner will attempt to address the claims as they currently appear, even though such is physically impossible of the claim language to function as it currently is claimed. The rejection following under Prior Art is made by the examiner to the best of his understanding of what applicant is attempting to claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-7, 9-11, 16, 17, 19, 20, 22, 24, 26, 38-42, 44, 46-49, 51, 52, and 54-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh in view of Meinz and the teachings of Thompson. The patent to Marsh discloses the recited hermetically sealed pressure balanced accumulator comprising a housing 11,12, a movable divider 15 formed as a pin connecting two pistons 16,17 which form hermetic seals via seals provided in grooves in the pistons to create four chambers, where chamber 21 is provided with fluid such as pressurized fluid from ambient conditions below a certain sea level, chamber 43 which fills from pressurized fluid from the hydraulic system, chamber 22 filled by a liquid such as sea water that is pressurized by

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the depth of the water creating pressure from the ambient water at that depth, and a chamber 44 which can be a vacuum, where the three chambers 21, 22, and 44 form balancing chambers. The patent to Marsh discloses all of the recited structure with the exception of providing bellows structure to the pistons. The patent to Mainz discloses that it is old and well known in the art to provide a chamber provided with dual pistons 11,12 connected by a bar 13 can be provided with a sealing structure in the form of a bellow structure 2,8 formed of welded seam metal bellows to create the chambers 4,17. The patent to Thompson discloses that it is old and well known in the art to provide pistons with bellows connected thereto to replace seal structures on the pistons, thereby providing motivation to make the combination of Mainz with the reference to Marsh. It would have been obvious to one skilled in the art to modify the pistons in Marsh by substituting a sealing structure in the form of a metal bellows structure with welded seams in place of the seals on the pistons as suggested by Mainz where such will reduce the drag on the pistons thereby improving the functioning of the accumulator and saving money by reducing drag as taught by Thompson.

Claims 1, 2, 5-7, 9-14, 16-22, 24, 26, 38-52, and 54-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Mainz and the teachings of Thompson. The patent to Schneider discloses the recited hermetically sealed pressure balanced accumulator comprising a housing 2, a movable divider 10 formed as a pin connecting two pistons 5,6 which form hermetic seals via seals provided in grooves in the pistons to create four chambers, where chamber 8 is a gas charged

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chamber, chamber 9 which fills from pressurized fluid from the hydraulic system, chamber 14 filled by low pressure fluid, and a chamber 7 which can be a vacuum, where the three chambers 7, 8, and 14 form balancing chambers. The patent to Schneider discloses all of the recited structure with the exception of utilizing a pressurized liquid in the third chamber, providing the first chamber with a gas each of specific pressures, and providing bellows structure to the pistons. It is considered merely a choice of mechanical expedients to substitute one type of pressured fluid for another where it is old and well known in the art to substitute liquids and gases for one another in accumulators to achieve specific pressure requirements where such would only require routine skill in the art to modify the fluids used in Schneider to be either liquid or gas of any pressure as such would only require routine skill in the art to use routine experimentation to arrive at optimum working values. The patent to Mainz discloses that it is old and well known in the art to provide a chamber provided with dual pistons 11,12 connected by a bar 13 can be provided with a sealing structure in the form of a bellow structure 2,8 formed of welded seam metal bellows to create the chambers 4,17. The patent to Thompson discloses that it is old and well known in the art to provide pistons with bellows connected thereto to replace seal structures on the pistons, thereby providing motivation to make the combination of Mainz with the reference to Schneider. It would have been obvious to one skilled in the art to modify the pistons in Schneider by substituting a sealing structure in the form of a metal bellows structure with welded seams in place of the seals on the pistons as suggested by Mainz where such will reduce the drag on the pistons thereby improving the

functioning of the accumulator and saving money by reducing drag as taught by Thompson.

Claims 1, 2, 5-7, 9-14, 16-22, 24, 26, 38-52, and 54-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deul in view of Mainz and the teachings of Thompson. The patent to Deul discloses the recited hermetically sealed pressure balanced accumulator comprising a housing 34,38, a movable divider 52 formed as a pin connecting two pistons 48,50 which form hermetic seals via seals provided in grooves in the pistons to create four chambers, where chamber 42 is a gas charged chamber, chamber 46 which fills from pressurized fluid from the hydraulic system, chamber 44 filled by ambient pressure fluid, and a chamber 37 which can be a vacuum, where the three chambers 42, 44, and 37 form balancing chambers. The patent to Deul discloses all of the recited structure with the exception of utilizing a pressurized liquid in the third chamber, providing the first chamber with a gas each of specific pressures, and providing bellows structure to the pistons. It is considered merely a choice of mechanical expedients to substitute one type of pressured fluid for another where it is old and well known in the art to substitute liquids and gases for one another in accumulators to achieve specific pressure requirements where such would only require routine skill in the art to modify the fluids used in Deul to be either liquid or gas of any pressure as such would only require routine skill in the art to use routine experimentation to arrive at optimum working values. The patent to Mainz discloses

that it is old and well known in the art to provide a chamber provided with dual pistons 11,12 connected by a bar 13 can be provided with a sealing structure in the form of a bellow structure 2,8 formed of welded seam metal bellows to create the chambers 4,17. The patent to Thompson discloses that it is old and well known in the art to provide pistons with bellows connected thereto to replace seal structures on the pistons, thereby providing motivation to make the combination of Mainz with the reference to Deul. It would have been obvious to one skilled in the art to modify the pistons in Deul by substituting a sealing structure in the form of a metal bellows structure with welded seams in place of the seals on the pistons as suggested by Mainz where such will reduce the drag on the pistons thereby improving the functioning of the accumulator and saving money by reducing drag as taught by Thompson.

Response to Arguments

Applicant's arguments filed March 13, 2008 have been fully considered but they are not persuasive. With respect to the arguments such come down to whether the reference to Mainz discloses the use of a metal welded bellows structure in place of the seals when considered in light of the teachings of Thompson. The argument directed against the use of Mainz is that the new claim language prohibits such structure, however, aside from this language being new matter and indefinite, the modification that Mainz is making is to substitute a metal welded bellows structure for the seal structure on a piston, and it is considered that this is the only modification being made, where in light of the teachings of Thompson and Meiers one would place the bellows to enclose

the gas chambers, and/or extend between the piston face and the end of the chamber the piston passes within. Therefore, it is considered that the rejection of this feature in light of the teachings of Meiers and Thompson would be obvious and would result in an apparatus that is similar to that of figure 1, where it is impossible to discuss the arguments with respect to the claim language when such is contrary to the specification and figure 1. There are no arguments directed to the other rejection under obvious choice of mechanical expedients therefore this rejection is still considered applicable as well.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference to Horton disclosing a state of the art structure with bellows.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (571) 272-4903. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James F. Hook/
Primary Examiner, Art Unit 3754

JFH